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Procedia - Social and Behavioral Sciences 116 (2014) 4124 – 4130

Procedia
Social and Behavioral Sciences

5th World Conference on Educational Sciences - WCES 2013

An Analysis of Teacher Feedback for Improving Teaching Quality in Primary Schools

Sompong Panhoon and [a]*, Suwimon Wongwanich [b]

[a]*Faculty of Education, Burapha University, Chonburi Province,Thailand*
[b]*Faculty of Education, Chulalongkorn University, Bangkok, Thailand*

Abstract

Feedback is one of the most powerful influences on learning. This article provides an overview of the current state and problems of feedback for teachers and students in primary schools. Data were gathered from national test scores, readiness tests, teachers' interviews, teachers' self-assessment and classroom observation. Descriptive statistics and content analysis were used to analyze data. The findings revealed that teachers received feedback on their instruction with superficial results. Slight recommendations could not improve teacher performance and student achievement. Teachers did not use evidence from assessment to improve their students' performance individually. Most teachers misinterpreted the responses on the readiness test of grade 6 students in mathematics and sciences. All teachers assessed themselves as having low ability of teaching. Moreover, there is no feedback for students addressed in the lesson plans. Teachers needed to improve their performance on teaching and assessment individually. All information from the analysis was used to design a feedback system which can be used to enhance its effectiveness in classrooms on teaching and learning.

Keywords: training self-assessment and classroom observation, low ability of teaching.

1. Introduction

Implementation of education reform in the first decade in Thailand focused on passing on education reform strategies and related knowledge to different work units in the form of documents, books and orders. Education reform in the first decade did not benefit learners, so it did not achieve its ultimate purpose, i.e. developing Thai children and youth (Wongwanich et al., 2011; Panhoon&Wongwanich , 2011, 2012).

A research by Hallinger and Lee(2011)found that education reform in Thailand had changed teaching and learning behavior of teachers, IT adaptation to education and educational systems. However, such transformation did not improve teachers' ability to the point where they could develop learners according to the real purposes of education reform. Inconsistency of education reform's outcomes with its purposes was related to top-down approach strategies and temporary resolutions. As a result, many schools failed to pass quality standards set by the Office for National Education Standards and Quality Assessment (ONESQA) (Public Organization). Additionally, in all those unqualified schools, management and teacher quality was not related to learner quality (Office of the Education Council, 2009). Other studies also found that education reform in the first decade in Thailand with a top-down approach adopted from Western countries did not live up to its expectations (Hallinger, 2009, 2010; Powell et al., 2009;The Nations ,2010; Chisholm & Leyendecker, 2008(.

Education reform in the first decade that placed importance on implementation of policies from policy-making agencies to schools was not successful. A down-top approach could be implemented in the Thai context to meet schools' needs. This approach starts from finding evidence of success in satisfying the purpose of education reform

* Corresponding name:Sompong Panhoon. Tel.: +6-608-4362-1103
E-mail address: sompong11@gmail.com

doi:10.1016/j.sbspro.2014.01.902

and then developing what schools find necessary. This method is called assessment-based improvement or evidence-based improvement.

Assessment-based improvement uses assessment results as guidelines, and is performed in combination with learning assessment. This assessment-based method improves educational quality assessment and helped students and teachers according to the Education Reform Act. This method should be performed together with teaching development according to curricula. This type of assessment can appear in different forms such as formative assessment, minute-by-minute assessment, day-by-day assessment, interim assessment and summative assessment.
National and local organizations in charge of assessment of curricula, teaching and schools must play a big part in developing and promoting teaching together with assessment. A teaching support system should be researched and developed to improve learners' and teachers' quality.

The above assessment method placed importance on feedback from teachers to learners, learners to learners, teachers to fellow teachers, management to teachers, etc. Corrective feedback develops learners' learning quality and teachers' teaching quality. The right feedback at the right frequency, guiding ways for improvement, can raise educational achievement and learning (Hattie & Timperley, 2007).

Hattie (1999, cited in Hattie & Timperley, 2007) conducted a mega-analysis on factors affecting learning achievement in over 500 cases. Out of 180,000 studies they derived 450,000effect sizes. In this research, there are 12 out of 196 studies on influence of feedback. An average effect size per learning effect size of feedback was 0.79. Feedback was among the top five factors affecting learning achievement. (The first factor was teachers' direct teaching and reciprocal teaching of teachers.)

Marzano(2006) suggested that feedback stating that something was right or wrong had a negative impact, reducing learning achievement by 3percentiles, while feedback with reasons why something was right or wrong had a positive impact, increasing learning achievement by approximately 8.5percentiles.Feedback giving assessment criteria had a positive impact, increasing learning achievement by 16percentiles.
Moreover, when reasons for something being right or wrong were discussed and questions were posed until everything was understood, learning achievement was increased by 20 percentiles. Feedback shown in development lines helped students control their learning and increased achievement by 26percentiles. Feedback of teachers' interpretation of assessment results according to determined criteria increased learning achievement by 32percentiles.

From the above, it can be seen that improved teachers' teaching standards will increase students' achievement. Therefore, teachers and students should receive the right feedback, which can be done through preliminary analysis of data and information from schools, teachers, students and related parties. A feedback system should then be developed to raise teachers' teaching standards and students' quality. This article also provides the problems and preliminary data of teachers and students in pioneer schools in order to raise teachers' teaching quality. All gathered data were included in feedback system construction to raise teaching abilities of primary school teachers for increasing their students' achievement and learning.

2. Research Scope

This research was a first-phase study with an aim to raise teachers' teaching quality by giving feedback within schools, so it covered preliminary information of operations and problems concerning learners' quality development. The researchers were well aware of problems facing teachers, so they focused on teachers' and learners' problems. A feedback system was developed to raise teachers' teaching standards and learners' quality.

3. Literature Review

In educational development, many elements were taken into consideration depending on types of education. Corad and Blackbum (1985) suggested that determination of quality of higher education should be based on academic performance of teachers, the number of students and curricula. Donalson (1994) suggested considering 11 elements of educational quality when assessing the quality of different fields of study in Scotland, while also considering quality of personnel and students. Like the above scholars, Fairweather and Brown (1991) stated that quality of teachers and students should be taken into account when assessing educational quality.

As for basic education, quality of learners and teachers was also emphasized (UNESCO, 2005; UNICEF, 2000).The quality of basic education was also assessed from quality of curricula, educational resource allocation, opportunities and rights to have basic education, educational involvement (UNESCO, 2005; Heyneman, 2004).

Assessment of different levels of education emphasized development of different assessment elements, as educational quality was believed to depend on improvement of learners' and teachers' quality, which had to come from development of teaching methods and teachers' quality. After graduation, teachers' skills must also be developed to raise their standards so they can educate learners up to the educational standard. Teachers usually receive training,

online education, part-time and full-time support, etc. (Louisiana Department of Education, 2006; Office of the Education Council ,2007).

Wisalaporn (2008) conducted research on a teacher and educational personnel development network according to the National Education Act B.E. 1999. The research revealed that to develop teachers, there should be various policies, power generation to educational regions and schools, and three development strategies: inside, outside and independent, training, self-study, research, field studies, academic activities, mentoring, further education and teacher development by concerned parties.

As to students, the best way to improve their quality is to give them the right educational methods. Teachers must also have qualifications and competence to deliver materials according to professional standards (OECD, 2010). Participation must come from various organizations and resources must be effectively allocated. Teacher development in the past was not very effective, so students were not educated up to the correct standards. Therefore, teacher development methods must be improved. One of the reasons why teacher development has not been successful was a lack of follow-up and support. After going through training, which has given them interesting teaching methods that have been proved successful, teachers kept using the same teaching methods despite their drawbacks. Confirming that what teachers did was right, and suggesting ways to success to teachers, resulted in unsuccessful educational development. At present, quality assurance is commonly practiced and the results determine gains and losses of teachers and concerned parties. Feedback-based teacher development can be a main factor of educational development.

Feedback is very important for improvement and development of necessary knowledge and skills of learners. It also raises learning achievement and performance of learners and teachers. Therefore, feedback is an important factor to create learning inspiration. Cohen (1985) stated that feedback was an important and powerful tool in designing teaching. Hattie (2007) defined feedback as an outlined idea of information necessary for understanding and performance of other people such as teachers, executives, friends, books, parents, oneself or experiences. Feedback on what is right or wrong is usually given by teachers and parents to learners, and by administrators and external experts to teachers. Feedback giving useful information and various choices is usually given by teachers to fellow teachers. Books crystallize learners' ideas. Parents mentally support learners who search for knowledge to validate answers or research results.

Black and William (1998) identified two roles of feedback: giving directions and solutions (directive feedback); and giving directions to help learners improve their learning experiences by themselves (facilitative feedback).In sum, feedback gives learners, teachers and practitioners clear ideas and reasonable thought processes. However, effective feedback depends on various factors such as characteristics of learners (capacity and motivation) and difference of expected learning outcomes) such as learning sustainability and burden transfer, etc.).

Hattie and Timperley (2007) suggested that feedback reduced the difference between knowledge understanding, and present learning results and expected outcomes. Teachers and learners can reduce the gap with effective feedback. Additionally, three questions must be answered: 1) Where am I going or what are the goals of learning?; 2) What am I supposed to do to achieve the goals of learning?; and3) Where do I go next or what activities need undertaking to make better progress? These three questions match three types of feedback: feed-up, feed-back and feed-forward. Answering the three questions comprehensively helps reduce the gap of teachers' and learners' learning quality. Levels of feedback also play an important role in improving teachers' and learners' quality. Task performance, processes of understanding how to do a task and or self or personal levels are different levels of feedback giving different learning results. Effective feedback must give two kinds of information to learners (Kulhavy & Stock, 1989): information used to validate the truth and information suggesting that learners find answers by themselves. Good feedback must give both kinds of information (Bangert-Drowns et al., 1991).

4. Research Procedure

In this research, quantitative and qualitative data were collected from target groups in pioneer schools in Chonburi province. Data collection methods were: readiness test for the O-NET, teachers' interview, lesson plan review, classroom observation, teachers' self-assessment and national test score record during the past three years. A test developed by Dr. Chayut Piromsombat and Asst. Prof. Soi-son Sakolrak was taken by 132 grade-six students to determine their readiness for the O-NET in mathematics, sciences and Thai language. A self-assessment test developed by Panhoon (2005) was also taken by five grade-six teachers, to examine their teaching schedule and performance in five areas: mathematics, sciences, Thai languages, English and computers. All instruments were tested for their validity and reliability by 15 researchers and provided good qualities. Data were analyzed using descriptive statistics and content analysis.

5. Research Results

5.1 .Learners' Quality Analysis Results

Analysis results of a test taken by 132 grade-six students to determine their readiness for the O-NET in mathematics, sciences and Thai language showed that none of them passed the requirements (scores over 80%) . Most students received scores lower than 50 in mathematics. The highest score was 70 while the lowest was 5. As for sciences, most students received scores lower than 50. The highest score was 60 while the lowest was 12.5. Students received better scores in Thai language than the other two subjects but still received scores lower than 50 with the highest score of 67 and the lowest score of 10. Details are shown in Figure 1.

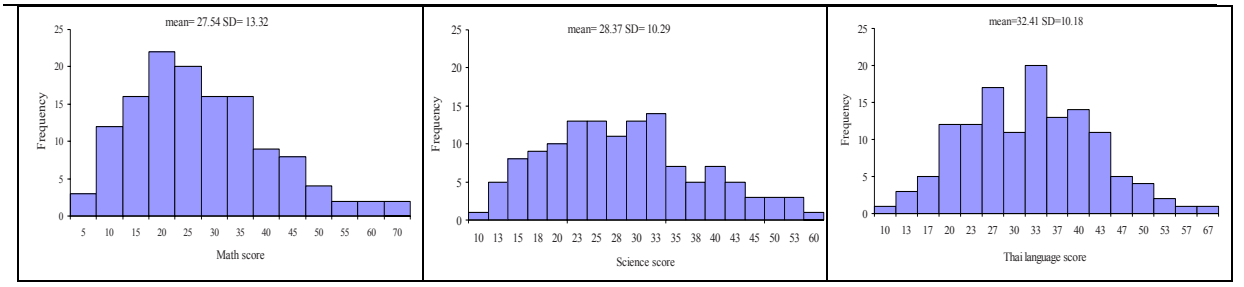

Figure 1 Readiness O-NET scores of Mathematics, Sciences and Thai language

The O-NET results of grade-six students during the past three years showed that science scores of students continuously decreased while their scores in the other subjects fluctuated with an overall rising trend as seen in Figure2.

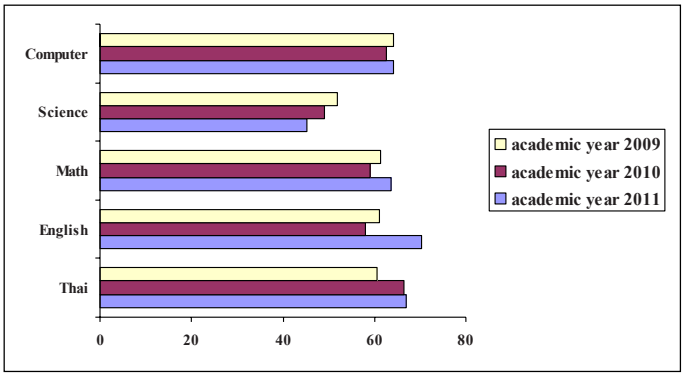

Figure 2 O-NET scores of Grade 6 students during three academic years

5.2 .Analysis Results of Teachers' Problems

Teachers' problems were analyzed based on a self-assessment list of the subjects that they taught. All teachers assessed their performance as satisfactory. The elements that they gave low scores to were learners' assessment and implementation of assessment results to develop learners properly, while their teaching plans were comprehensive. Details of each element were consistent, such as indicators, teaching activities, assessment and evaluation, etc. Things that needed improvement were notes teachers took after classes: they described the whole class, not each student, so they did not know which students had which problems and what needed to be done to solve individuals' problems. In addition, teachers' notes were hardly ever implemented to their teaching. When principals examined teachers' notes, they found that teachers focused on writing their lesson plan, spelling, etc. This kind of feedback did not help to improve teaching and raise learners' quality.

Observations of five teachers teaching five subjects: mathematics, sciences, Thai language, English and computers, showed that the five teachers taught according to their teaching schedule and used teaching media to give students a better understanding of the subjects. Teachers gave 1-2 questions or activities to students to encourage them to think and take action. They randomly asked each student and asked the whole class. When a student gave a wrong answer, another

student was asked to give an answer until the right answer was given. Teachers of English and mathematics explained why some answers were right or wrong. The rest simply gave the right answer without giving any reason.

As for consideration of students' mistakes in the O-NET preparation, teachers of mathematics, sciences and Thai language could identify most of students' mistakes. The teachers understood the content of the subjects very well, but when they tested students with more complicated questions, their diagnosis of students' mistakes was incorrect. Details of analysis results of teachers' problems are in Table 1.

Table 1.Analysis results of teachers' problems

Teacher	Subject	Self-assessment Results	Problem of lesson plans	Teaching Observation	Diagnosis test response of students
1	Mathematics	Satisfactory	1.Using the same lesson plan with full details that are consistent with each element 2. Overall notes after classes did not show problems of each student. For example, five students did not succeed according to indicators. Teachers taught after classes. The notes were ambiguous and redundant such as teaching assessment results and teaching results, etc. 3. When examining teachers' lesson plan, administrators focused on styles, components and spelling.	Teachers did all activities stated in the teaching schedule. Teachers randomly selected one student at a time to solve a problem on the board and let all students give the answer. Mistakes were corrected. Students who could not find the answer asked other students to help. Other students did not receive feedback.	Teachers analyzed wrong answers of students such as miscalculation and method misuse. For complicated questions, teachers did the right diagnosis of some of students' answers such as finding a triangle in a square and math problems.
2	Thai language	Satisfactory		Teachers taught use of conjunctions using word cards and sentence tabs. Students were asked to answer questions. When they gave wrong answers, teachers tried help them or ask other students to help them without explaining the answers.	Teachers analyzed students' mistakes correctly. They only made mistakes when it came to decomposing poems and answering questions related to poems. For example, in item 7, the teacher thought that the students gave wrong answers because the poem was beautiful and good words were used so it should have literary value.
3	Sciences	Satisfactory		Teachers taught planning to explore ecological systems in schools. Students were asked to express their opinions on activities and items to be recorded. Five students were idle expressing no opinions.	Teachers diagnosed most mistakes of students correctly except exams with tables and graphs to be interpreted and answered. Teachers thought that students did not interpret data before answering even though some data needed no interpretation before answering.
4	English	Satisfactory		Teachers taught students how to use 'can' in sentences through conversation. Students listened to videos to practice their listening, reading, speaking and writing skills. Some students were not randomly selected by teachers to answer questions so they could not do exercises because they did not understand the lesson. Teachers made appointments with them after classes to explain the lesson to them.	-
5	Computers	Satisfactory		Teachers gave lectures and made MS PowerPoint presentations. Teachers asked questions to students after the presentations. When a student was struggling, teachers asked other students to help that student but did not give further explanation as to why the answer was wrong. Teachers praised students who gave the right answers without explaining why those answer were right.	-

6. Conclusion and Discussion

In this research, a feedback analysis was performed to raise teachers' teaching quality in pioneer schools in Chonburi. The researchers analyzed target students and teachers' problems. Scores of grade-six students showed that all learners had scores of mathematics, sciences and Thai language lower than cut-off scores, and their O-NET scores during the last three years were higher than 50 with an increasing trend except for sciences. Analysis of teachers' problems showed that they put a lot of efforts into their teaching and were responsible in their jobs as teachers. However, they could not raise learners' quality. They received training on teaching and were audited by the administrative department at a superficial level. Learners were not fully developed. Teachers did not give useful feedback to all learners. They focused on giving compliments and telling students what was right or wrong. They also analyzed students' exam results incorrectly. Discussion of the analysis is as follows.

Feedback in pioneer schools in Chonburi showed that schools did not place great importance on lesson plans, teachers' observations and analysis of mistakes of learners in exams. They did not solve problems at their roots. Administrators or teachers gave training to teachers and teachers gave feedback to learners. Feedback exchange among

teachers was not found. In the past, teachers and administrators did not give complete feedback to learners in pioneer schools. Students' scores were at a satisfactory level compared to national, regional and provincial averages. This means that if teachers and concerned parties offer proper teaching methods and feedback and create an atmosphere that encourages knowledge exchange in schools, learners' quality will be raised to standard.

Regarding scores of grade-six students, most of them had quite low scores in mathematics, sciences and Thai language even though teachers were well aware of mistakes, with some confusion on the teachers' side. This shows that if teachers are given opportunities to implement data from tests to their teaching, and feedback is given to them on a regular basis, learners' education will be developed in an effective and efficient way. Marzano (2006) suggested that proper feedback from teachers increased students' learning capacities and raised their learning achievement (Hattie & Timperley, 2007).

7. Recommendations

1. Feedback aiming to raise students' learning achievement must be given vertically: i. e. administrators or teachers in charge of training should give training on teaching to teachers, and learners' quality results from different assessments must yield feedback useful to learners; and horizontally: teachers continuously give feedback and teaching results to one another.

2. Feedback givers and takers must be open-minded and must implement feedback to their work and studies.

3. A feedback system in schools aiming to raise teachers' teaching standards must be based on analysis of data on teachers and learners derived from evaluations and tests, so that strengths and weaknesses of target groups are taken into account and improvement or development can be done in the right direction and in an effective manner.

Acknowledgements

The researchers would like to thank Thailand Research Fund (TRF) for funding this research (RTA5380011). This research is part of "Research and Development of Driving Strategies for the Second Decade of Education Reform Policy" Project.

References

Bangert-Drowns, R. L., Kulik, C. L., Kulik, J. A., & Morgan, M. T. (1991). The instructional effect of feedback in test-like events. *Review of Educational Research*, *61*, 213–237.

Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Assessment in Education*, *5*, 7–75.

Cheng, Y.C., & Walker, A. (2008). When reform hits reality: The bottleneck effect in Hong Kong primary schools. *School Leadership and Management, 28*, 505-521.

Chisholm, L., & Leyendecker, R. (2008) Curriculum reform in post-1990s sub-Saharan Africa. *International Journal of Educational Development,* 28, 195-205.

Cohen, V. B. (January, 1985). A reexamination of feedback in computer-based instruction: Implications for instructional design. *Educational Technology,* 25, 33- 37.

Corad, C.F., & Blackbum, R.T. (Summer, 1985). Correlates of departmental quality in regional colleges and universities. *American Educational Research Journal,* 22, 279-295.

Donaldson, J. (1994). Quality assessment in Scotland. In A. Craft (Ed.), *International developments in assuring quality in higher education* (p.102-111). London: Falmer Press.

Fairweather, J.S., & Brown, D.F. (1991, Winter). Dimensions of academic program quality. *The Reviews of Higher Education.* 14, 155-176.

Hallinger, P, & Lee, M. (2011). A decade of education reform in Thailand: broken promise or impossible dream? *Cambridge Journal of Education*, 41, 139-158.

Hattie, J., & Timperley, H. (2007, March). The Power of feedback. *Review of Educational Research*, 77, 81-112.

Heyneman, S.P. (2004, August). International education quality. *Journal of Economics of Education Review,* 23, 441-452. Retrieved from http://www.elsevier.com/locate/econedurev.

Hupe, P.L. (2011) The thesis of incongruent implementation: revisiting Pressman and Wildavsky. *Public Policy and Administration*, 26, 63–80.

Kulhavy, R. W. and Stock, W. A. (1989). Feedback in written instruction: The place of response certitude. *Educational Psychology Review*, *1*, 279–308.

Louisiana Department of Education. (2006). *Professional Development Professional Growth Initiatives.* Retrieved from http://www.doc.state.la.us/ide/pd/1661.html.

Marzano, R. J. (2006). *Classroom assessments and grading that work.* Virginia: Association for Supervision and Curriculum Development.

OECD (2010). *PISA 2009 results: What students know and can do–student performance in reading, mathematics and science (volume I).* Retrieved from http://dx.doi.org/10.1787/9789264091450-en.

Panhoon, S. (2005). *Development of empowerment evaluation checklist for developing teachers' and students' evaluation skills.* (Unpublished doctoral dissertation). Chulalongkorn University, Thailand.

Panhoon, S., & Wongwanich, S. (2011). Strategies and Consequences of First Decade Education Reforms The Lesson Learned from School Practices in Chonburi Province, Thailand. Bangkok: Thailand Research Fund (TRF) and Chulalongkorn University.

Panhoon, S., & Wongwanich, S. (2012, Issue 9). Strategies and Consequences of First Decade Education Reforms The Lesson Learned from School Practices in Chonburi Province, Thailand. *The International Journal of Learning*, 18, 279 - 298.

Powell, A.E., Davies, H.T.O., Bannister, J., & Macrea, W.A. (2009). Understanding the challenges of service change learning from acute pain services in the UK. *Journal of the Royal Society of Medicine*, 102, 62-68.

The Nations. (2010, March 31). Bold steps needed in education reform. *The Nation*. Retrieved from http://www.nationmultimedia.com/home/2010/03/31/opinion/Bold-steps-needed-in-education-reform-30125930.html.

UNICEF (2000). *Defining quality in education*. New York: Author.

UNESCO (2005). *EFA global monitoring report education for all-The quality imperative.* Retrieved from http://unesdoc.unesco.org/images/0013/ 001373/137333e.pdf.

Wisalaporn S. (2008) *Network types of teacher and educational personnel development and according to the National Education ActB.E.1999*. Retrieved 2008 from http://www.moc.go.th/ webtcs/seamsak/head1.htm.

Wongwanich, S., Kiewkor, S., Kong-ngam, S., Panhoon, S., Yamtim, W., & Artparu, H. (2011). *Directions and results of education reform policy implementation in the first decade: Lessons from schools.* Bangkok: Thailand Research Fund (TRF) and Chulalongkorn University.